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CRITICAL ANALYSIS OF THE EFECTS OF AUDIOVISUAL MEDIA USE IN BIOLOGY PEDAGOGY IN SECONDARY SCHOOLS IN KENYA

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Abstract:
The main purpose of the current study was to critically analyse the effects of audio and visual media use in Biology Pedagogy in Secondary Schools in Kenya; the outcome of the current study show indicates that there is a positive relationship between facility of Audio Visual Media and teachers' attitudes towards teaching biology. The results report that high school teachers of biology to realize the contribution of using Audio Visual media in teaching Biology. Teachers who have been trained can effectively use audio visual media. The finding indicates that trained teachers can utilize Audio and Visual Media effectively in teaching Biology by increasing motivation of learner in a classroom.

Keywords: media, pedagogy, biology

1. Introduction

The current education is under constant change in policies, procedures and methods can be clearly observed. Change is always welcomed at different levels of education system as required but should always be in harmony with religion, style and society. There is an intensive change in every level of current education system that

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incorporates practical and dynamic approach in existing and new fields aimed at awakening the hidden learners' curiosity.

These habits are nourished and allow learners to acquire skills in life enabling them think critically and judge themselves in a beneficial way. Learners should gain confidence to acquire and explore life fully through inquisitive mind. Learners were passive listeners before incorporation of modern technology in the field of education (Andambi, 2013).

Use of audio visual media is considered to be giving learners focus at 85% of the whole lesson being taught. Media Aids makes teaching more appealing and memorable since learners utilize their senses of touch, hearing and seeing for individual learners who gain attention towards their teacher through a play or a topic that plays a vibrant role to them.

Research indicates that learners recall a tenth of what they listen to, 20% of their reading and 80% of their observation and actions (Andambi, 2013) Acoustic visual media is the most efficient tool used to develop interactions between the teacher and the student. These tools not only save time of the teacher but also help to arouse creativity, curiosity and motivation; that emphasizes on comprehensive knowledge as well as concepts of developing sound foundation for further studies.

2. Statement of the Problem

Audio-visual media has been an area of major concern in Kenyan education system due to far reaching effects of individual school in diversity. Among the main effects the government through the ministry of education and Kenya Institute of curriculum development which has really emphasized usage of both print media and audio-visual learning science subjects. However, the ICT – integration in Kenyan education has been the challenge and its implementation process is slow. The Jubilee manifesto 2013 had promised to provide every standard one pupil with a laptop in the entire country could have been a milestone to Kenyan children and adoption of ICT in teaching and learning. The government efforts to mitigate policies on the implementation were in vain since few schools received the laptops for the standard one pupil. This overstretched limited resource is even more overwhelming in secondary schools to implement ICT to supplement the print media. However, biology teachers as well faced the same fatigue in teaching biology due to overstretched teaching resources. Creativity in teaching has been trending today by using print media, audio and videos in teaching Biology to improve learner's participation, concentration and retention level in teaching and learning process

3. The Purpose of the Research Study

The research study was undertaken to investigate the outcomes of utilizing audio and visual media in impacting and acquiring Biology knowledge in secondary schools in Kenya This was as per the objectives which are focused on teachers' effectiveness in using audio-visual media aids, learners' attitude towards audio visual media use, pros associated with the use of audio visual media aids while teaching/learning Biology and cons of using audio visual media in secondary school in the country.

4. Objectives of the Research Study

1. To critically examine the effects of audiovisual media usage in teaching Biology at secondary schools in Kenya
2. To critically analyze learners attitude towards audio-visual media usage in learning biology at secondary schools in Kenya
3. To critically analyze pros of audiovisual media usage in teaching biology in secondary schools in Kenya
4. To significantly analyze cons of audiovisual media usage in teaching and learning Biology in Kenyan secondary schools.

5. Research Questions

1. What are the effects of employing audio and visual media in learning biology in the country?
2. What is the learners' attitude towards audiovisual media usage in learning biology in secondary schools in Kenya?
3. What are pros of audio visual media usage in impacting and acquiring biological knowledge in secondary schools in Kenya?
4. What are the cons of audiovisual media usage in teaching/learning Biology in secondary schools Kenya?

6. Research Methodology

Given that the absence of initial data in the specific subject of the study, the researcher adopted a qualitative approach .innovative systems and situations in which the variables are known upfront. These approaches offer data rich in texture and depth

(Brown, 2008). The researcher adopted a qualitative critical analysis method for proper characterization of the complexity of the issue at hand.

6.1 Critical Analysis on the Effect of Audiovisual Media Usage in Teaching/Learning Biology

Audiovisual media usage in science has been successful to man today through discoveries of new fields of knowledge in teaching and learning Biology (Sampath, 2008).Memorizing and naming concepts by students has been strongly opposed by a Dutch writer and a teacher; Desiderious Erasmus (1466 – 1536) and suggest teaching children through the use visual materials or pictures (Sampath, 2007).

The entire education system was reformed through preparation of the gained popularity worldwide in teaching childhood education. Teaching process was driven by natural curiosity (Pannneersalvam, 1998).The use of an audio visual media in classroom enables learnersgive their opinions in the lesson hence help them to develop new language other than their initial mother tongues, making learners more attentive, motivated and lesson being interesting (Sampath, Santhan, 1998).

The learners utilize the five common senses i.e. touch, smell, hearing and tasting in the lesson (Prasad 2005). This improves teachers' performance by saving time and energy (Lewis, Brown, 1985).Basic Educational objectives in Kenya must lead to self-learning towards learners and knowledge by the use of audio-visual media materials and tools (Singh, Sharma, 2008). The retention rate of the learners increase by use of audio-visual media aids (Sampath, 2005)

Audio media is limited to the deaf; record players cassettes and tapes recorders for the purpose of learning Biology are not suitable for the deaf learners. This is beneficial for the blind and handicapped students but visual media on the other hand is beneficial for the deaf. In general, the retention after 3 to 5 days, a student retains only 20% of what was heard but 50% of what was seen and heard. Thus, a teacher integrating both audio and visual media use is more beneficial to the student in terms of learning Biology (Brown, 1983).

6.2 Critical Analysis on the Student Attitude towards Audiovisual Media Usage in Teaching Biology

Integration of information communication technology ICT in teaching and learning biology is absolutely appealing. This relationship between biology and media contents from a specific agent perspective in the media environment. The audio-visual media communication professionals and their attitudes towards biology, and the scientific

based audio-visual content. Their attitudes thus are crucial and beneficial to explain their presence and absence of scientific program in cinema, television and radios.

The preference for entertaining or artistic source of inspiration instead of that derived from biology. Therefore audio-visual communicators consider that biology to adapt themselves to production routines and concerns of media in order to be taken into account as objects of interest by media (Azjen, 2009).Scientist must cooperate with media communicators in order to reach more visibility (Council for science and technology) on the contrary, their attitudes is that of the strong and powerful owner of the information channels and controlling the direct contact of the audience.

Content in media offer determines the attitudes about the social norm, age bound, personal interest or the subject together with the belief about the contribution of the media to the student (Azjen, 2006). There are differences not only the variety of representation of biology in the mainstream media, validated in its quantity Lehmkuhl et al... (2012).

The implementation of radio program made media professional a wiser person and better knowledge on the agreed scientific information coming from real scientists who are easy to meet the outcomes of issues at stake. Audio visual media use in developing actual objectives of education entails activities for the teacher and learner that keep learners attentive ((Holliday, 2012).Therefore the students' attitude towards audio-visual use is positive in secondary schools.

6.3 Critical Analysis of the Pros of Audiovisual Media Usage in Learning Biology

"*One picture had more worth thousand words*" an old Chinese proverb that if a teacher uses word along with picture, students is better able to grasp to concept well. However, there is higher retention rate in using a picture and word than failing to use it. There must be some benefits and merits of practicing audio-visual media by the teacher therefore helps in comprehension of the child's contact directly (Holliday, 2012).

A class that uses audio visual media helps learners to discuss, comment and express their opinion while use of audio-visual media since they have freedom, which they cannot while a typically teacher lectures is in progress simultaneously this discussion helps the learners in developing language other than mother tongue (Sampalla, Santhan 1998).Using audio-visual media improve performance by saving energy and time (Lewis, Harcleroad and Brown 1985).

6.4 Critical Analysis of the Cons of Audiovisual Media Usage in Teaching/Learning Biology

Audio visual media use in education has been difficult to implement. Through KICD, the government attempts to power schools with electricity as was in vain due to financial controls, lack of skilled personnel in the field. Using video clips is attractive during teaching and learning Biology and makes the lesson interesting. The few schools that have incorporated these tools in teaching especially if the video as biased information therefore result in learner diversion from the desired part of learning leading to misinformation (Holliday, 2012)

Technical problems may hit audiovisual for example projectors breaking down, bulbs blowing and lack of source of power can affect the presentation of the lesson. Furthermore, using compact discs and digital video discs may not well match and can lead to distortion of information (Andambi, 2013) In addition choosing the media for the correct audience is difficult since grouping learners of different ages is very rare. Categorizing correct audio visual media for young learner and grownups for example pictures can be unreliable since learner of different age groups have their own favorite this makes lesson interaction limited (Holliday, 2012).

7. Conclusions

The use of audio visual media in learning biology is an important tool that makes teaching learning process successful and interesting. It enhances understanding of the learners in the classroom hence helps to improve teachers' outcome. This motivates the teacher and the learners as well as convincing them and supplementing the attention level of the student while increasing their understanding and intellectual capacity.

8. Recommendations

1. Policy makers and curriculum planners may realize the importance of audio-visual media can make it part of the teacher educational program so that teachers are trained on proper use of audio-visual media.
2. Teachers can be encouraged to use audio-visual media in order to promote the interest and motivation of their student and keep them attentive in class.
3. Use of audio-visual media is a skill, teachers can use traditional as well as new technology based through in-service teachers professional development programs.

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